

Title (en)  
GATE DRIVER

Title (de)  
GATE-TREIBER

Title (fr)  
CIRCUIT D'ATTAQUE DE GRILLE

Publication  
**EP 3849083 A1 20210714 (EN)**

Application  
**EP 20275003 A 20200107**

Priority  
EP 20275003 A 20200107

Abstract (en)  
A gate driver circuit (2) for driving a gate-controlled switching device (4) comprises a voltage monitor circuit portion (14) arranged to produce a first value that is dependent on a time derivative (dv/dt) of a voltage applied across the gate-controlled switching device (4). A current monitor circuit portion (16) is arranged to produce a second value that is dependent on a time derivative (di/dt) of a current through the gate-controlled switching device (4). A compensator (12) is arranged to receive an alternating input signal (PWM<sub>ref</sub>), the first value, and the second value, wherein the compensator (12) modulates a magnitude and transition profile of the alternating input signal (PWM<sub>ref</sub>) in response to the respective time derivatives of the voltage and the current, thereby generating a modulated control signal (PWM<sub>N</sub>). The gate driver circuit (2) supplies the modulated control signal (PWM<sub>N</sub>) to the gate terminal of the gate-controlled switching device (4).

IPC 8 full level  
**H03K 17/16** (2006.01); **H02M 1/08** (2006.01)

CPC (source: EP US)  
**H02M 1/08** (2013.01 - EP US); **H02M 1/44** (2013.01 - EP); **H03K 17/165** (2013.01 - US); **H03K 17/166** (2013.01 - EP); **H02M 1/0009** (2021.05 - US); **H02M 1/0054** (2021.05 - EP); **H03K 2217/0036** (2013.01 - EP); **Y02B 70/10** (2013.01 - EP)

Citation (search report)  
• [X] EP 2816728 A1 20141224 - ABB RESEARCH LTD [CH]  
• [X] US 10461732 B1 20191029 - NORLING KARL [AT], et al  
• [A] EP 3322093 A1 20180516 - MITSUBISHI ELECTRIC R&D CT EUROPE BV [NL], et al

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Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 3849083 A1 20210714**; US 11316513 B2 20220426; US 2021211124 A1 20210708

DOCDB simple family (application)  
**EP 20275003 A 20200107**; US 202017064035 A 20201006